UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/082,984 | 02/25/2002 | Yukinobu Konishi | 542-007-3 | 7004 |

4955 7590 12/08/2003

WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

| EXAMINER | |
|---|---|
| WANG, GEORGE Y | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2871 | |

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Offic Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/082,984 | KONISHI ET AL. | |
| | Examiner | Art Unit | |
| | George Y. Wang | 2871 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *03 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 September 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujihara et al (U.S. Patent No. 5,771,083, from hereinafter "Fujihara") in view of Nishikawa et al. (U.S. Patent No. 5,724,107, from hereinafter "Nishikawa") and Ellis (U.S. Patent No. 5,546,204).

3. As to claim 1, Fujihara discloses a liquid crystal display (LCD) having a TFT substrate (fig. 1, ref. 8) and a counter substrate (fig. 2, ref. 1) with liquid crystal layer (col. 1, lines 41-43), where the TFT array substrate has a display area and a terminal forming area such that the display area has a pixel electrode (fig. 1, ref. 5), a switching element (fig. 1, ref. 8), a gate line (fig. 1, ref. 2) and a source line (fig. 1, ref. 3).

However, the reference fails to specifically disclose a terminal forming area with a terminal electrode for connecting to the gate or source line to an external signal source, such that the first metallic line and the second metallic line are both connected to the terminal electrode via respective contact holes (fig. 2, ref. 13) arranged below the terminal electrode, and an insulating layer (fig. 2, ref. 9) is interposed between the first metallic line and the second metallic line. Furthermore, the reference fails to specifically disclose a liquid crystal layer interposed between the TFT substrate and counter substrate.

Nishikawa discloses a terminal forming area with a terminal electrode for connecting to the gate or source line to an external signal source (fig. 6, ref. 14c)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have positioned the liquid crystal layer between the two substrate layers since one would recognize that as well known (Fujimara, col.1, lines 41-43). Furthermore, Ellis discloses a TFT matrix LCD with a liquid crystal layer between a TFT substrate and counter substrate (col. 2, lines 7-21; fig. 5), which provides a normalized viewing pixel, ultimately improving aperture ratio and increasing display reliability (col. 2, line 64 – col. 3, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have disclose a terminal forming area with a terminal electrode for connecting to the gate or source line to an external signal source, such that the first metallic line and the second metallic line are both connected to the terminal electrode via respective contact holes arranged below the terminal electrode, and an insulating layer is interposed between the first metallic line and the second metallic line since one would be motivated to provide control over the storage capacitor (abstract). This ultimately improves aperture ration, increases storage capacitance, and produces good images (col. 3, lines 22-25).

4. Regarding claims 2-6, Fujihara discloses the LCD device as recited above where the first metallic line is made from the same layer as the source line and the second metallic layer is made from the same layer as the gate line, such that the first metallic line is connected to the source line and the second metallic line is lower than the first metallic line (fig. 2 and 3).

***Response to Arguments***

5. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Regarding the amendments added to claim 1, even though the product-by-process limitation "and serves, during fabrication of said display, to minimize exfoliation of the second metallic line, and short circuits resulting from such exfoliation" is

recognized as limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). See also MPEP 2113.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 703-305-7242. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

gw
November 17, 2003

T. Chowdhury
Primary Examiner